IN THE CLAIMS:

These claims will replace all prior versions of claims in the present application. Cancel claims 1-16 and replace them with claims 17-46.

17. (New) A device for detecting crossing of a horizontal lane demarcation mark of a carriageway for motor vehicles, wherein it includes at least one box to be placed under the vehicle and enclosing master and slave means for projecting two light beams onto the carriageway in two distinct zones, and distinct means for picking up each of the two light beams after reflection onto the carriageway.

18. (New) The detection device according to claim 17, wherein the at least one box, exhibiting a general axis of symmetry (z-z') encloses a single light source emitting a primary light beam in the direction of the carriageway and at least one photo-sensor for detecting the light after reflection on the carriageway, two first optical devices whose optical axes are inclined at a first value (α) with respect to the general axis of symmetry (z-z') of the box being disposed on the path of the primary light beam as it exits the optical source, so as to split said primary light beam into two secondary light beams projected onto the carriageway in two distinct zones, and two second optical devices whose optical axes are inclined at a second value (β) with respect to the general axis of symmetry (z-z') of the box being disposed on the path of the secondary light beams after the latter have been reflected onto the carriageway and before they reach the at least one photo-sensor.

19. (New) The detection device according to claim 17, wherein the at least one box, exhibiting a general axis of symmetry (z-z') encloses two light sources each emitting a light beam in the direction of the carriageway and at least one photo-sensor for detecting the light

after reflection on the carriageway, two first optical devices whose optical axes are inclined at a first value (α) with respect to the general axis of symmetry (z-z') of the box being each disposed on the path of one of the light beams as it exits the corresponding optical source, so as to project said two light beams onto the carriageway in two distinct zones, and two second optical devices whose optical axes are inclined at a second value (β) with respect to the general axis of symmetry (z-z') of the box being disposed on the path of the light beams after the latter have been reflected onto the carriageway and before they reach the at least one photo-sensor.

20. (New) The detection device according to claim 18, wherein the first two and the second two optical devices each include at least one lens.

21. (New) The detection device according to claim 19, wherein the first two and the second two optical devices each include at least one lens.

22. (New) The device according to claim 20, wherein the lenses are revolution lenses or do not exhibit axial symmetry.

23. (New) The device according to claim 21, wherein the lenses are revolution lenses or do not exhibit axial symmetry.

24. (New) The detection device according to claim 20, wherein the lenses are of the mineral type.

25. (New) The detection device according to claim 21, wherein the lenses are of the mineral type.

26. (New) The detection device according to claim 22, wherein the lenses are of the mineral type.

27. (New) The detection device according to claim 23, wherein the lenses are of the mineral type.

28. (New) The detection device according to claim 20, wherein the lenses are of the organic type.

29. (New) The detection device according to claim 21, wherein the lenses are of the organic type.

30. (New) The detection device according to claim 22, wherein the lenses are of the organic type.

31. (New) The detection device according to claim 23, wherein the lenses are of the organic type.

32. (New) The detection device according to claim 20, wherein the box includes a body and an optical unit which carries the lenses.

33. (New) The detection device according to claim 21, wherein the box includes a body and an optical unit which carries the lenses.

34. (New) The detection device according to claim 32, wherein the lenses are individually mounted on the optical unit.

35. (New) The detection device according to claim 33, wherein the lenses are individually mounted on the optical unit.

36. (New) The detection device according to claim 32, wherein the lenses are integral with the optical unit.

37. (New) The detection device according to claim 33, wherein the lenses are integral with the optical unit.

38. (New) The detection device according to claim 28, wherein the optical unit includes a base on which two optical transmission tubes stand and two optical reception tubes.

39. (New) The detection device according to claim 38, wherein the body of the box has cavities for receiving the transmission tubes and reception tubes of the optical unit.

40. (New) The detection device according to claim 18, wherein the light sources include light emitting diodes emitting in the infrared range.

41. (New) The detection device according to claim 19, wherein the light sources include light emitting diodes emitting in the infrared range.

42. (New) The detection device according to claim 18, wherein the light sources and the photo-sensors are mounted by SMD or flip-chip on a printed circuit board.

43. (New) The detection device according to claim 19, wherein the light sources and the photo-sensors are mounted by SMD or flip-chip on a printed circuit board.

44. (New) The detection device according to claim 17, wherein the light beams are focussed at the surface of the carriageway.

45. (New) The device according to claim 18, wherein the first two and the second two optical devices include a screen disposed obliquely in front of the light sources and pierced with a hole.

46. (New) The device according to claim 19, wherein the first two and the second two optical devices include a screen disposed obliquely in front of the light sources and pierced with a hole.